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REMARKS

Claim 1 has been amended to overcome the Examiner's objection based on informalities. Claims 1-8 remain in this application and stand for examination. Reconsideration and reexamination are requested in view of the foregoing amendments and the comments made hereinafter.

Rejection of claims 1, 2 and 4-8 for obviousness

The Examiner rejects claims 1, 2 and 4-8 under 35 U.S.C. 103(a) as being unpatentable over previously cited Nutten et al United States Patent 3,428,406 in view of Patrick et al United States Patent 3,245,458 and previously cited Bennett United States Patent 4,061,463.

The Examiner and the applicant have reached agreement on the disclosure of Nutten et al insofar as the type of burner used by Nutten et al is not an infrared burner at all. That the Examiner agrees is clear at page 5, lines 4-5 of the action. Applicant further submits that Nutten et al do not teach or suggest an infrared burner where liquid fuel is drawn into the combustion chamber through an air aspirated nozzle which air creates the suction to draw in the liquid fuel and the Examiner, to be fair, must also agree with this.

The Examiner cites Patrick et al which the Examiner states "...teaches a liquid fuel fired burner that is considered analogous art to both applicant's invention and to Nutten. Applicant agrees Patrick shows and describes an infrared burner. However, applicant does not agree that Patrick et al show an infrared burner of the type taught by the present invention. Patrick et al teach two infrared burners. The first is a "gas fired infrared burner 396" (see col. 13, lines 19-20). In this embodiment, "...gas is supplied under pressure through an orifice spud 402 to the throat 403 of a venturi tube 404. The flowing gas induces all of the combustion air required for complete combustion into

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venturi 404 where it mixes with the combustion gas." (col. 13, lines 22-24). This disclosure does not assist Nutten et al in reaching the present invention which, as claim 1 recites, teaches "...a fuel supply to supply liquid fuel at ambient pressure to said air aspirated nozzle...". In Patrick et al's first embodiment, as shown in Figure 6, gas is used and not liquid fuel.

Patrick et al's second embodiment, illustrated in Figure 7, is called a "Liquid fuel burner". (col 14, line 22). But Patrick et al's second embodiment differs substantially from the infrared burner of the present invention. Patrick et al relates that "...liquid fuel is forced under pressure from a pipe 502 through an atomizing nozzle 504 to provide a spray [of] atomized oil as shown by broken arrows 506. Nozzle 504 is located with the entrance bell 508a of a venturi tube 508 which has a throat 508b and oil sprayed through nozzle 504 therefore induces a flow of air through the venturi." (Col. 14, lines 25-31)

Patrick et al's disclosure and drawing therefore teach liquid fuel under pressure at the atomising nozzle. When the oil passes through the nozzle, air is drawn into the nozzle. This is diagrammatically opposite to the teachings of the present application where fuel is received at the nozzle under ambient pressure and compressed air draws the fuel into the nozzle. And these limitations, of course, are recited in the claims under consideration.

The previous Examiner and the applicant have traveled together down this road previously. See, for example, applicant's response filed February 14, 2000 and the remarks made in that paper. Suffice it, applicant's invention is not taught or suggested by Nutten et al or Patrick et al, taken individually or together.

The Examiner further relies on previously cited Bennett. Bennett was discussed in applicant's paper dated

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November 24, 2006 and the differences between Bennett and the present invention are set out there. Simply put, and as previously submitted, Bennett discusses pre-mix type infrared burners only and does not teach or suggest an infrared burner which combusts an atomised fuel introduced to the nozzle at ambient pressure and drawn into the nozzle and the combustion chamber by air under pressure. At col. 1, lines 18-22, Bennett defines the infrared burner he is contemplating thusly:

"The second category is the premix type of system in which a combustible mixture of air or other oxidizing gas is mixed with the fuel before reaching the burner and this mixture is pressurized and discharged from the burner where it ignites. Burners such as infrared burners are within the last category, as is the present invention." (emphasis added)

To summarize, Nutten et al do not teach an infrared burner as defined by the claims. Patrick et al teach fuel under pressure which draws air into the nozzle, precisely the opposite teachings of the present invention. And Bennett teaches only a type of infrared burner where the fuel and air are premixed which is not the infrared burner of the present invention.

Rejection of claim 3 for obviousness

The Examiner rejects claim 3 under 35 U.S.C. 103(a) as being unpatentable on the basis of Nutten et al in view of Patrick et al and Bennett and further in view of previously cited Reichhelm United States Patent 3,361,183.

Nutten et al, Patrick et al and Bennett have been discussed above. Reichhelm has been discussed in, for example, applicant's paper dated March 19, 2006 and was withdrawn by the Examiner thereafter. Reichhelm does not teach

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an infrared burner at all and contributes nothing to Nutton et al, Patrick et al and Bennett taken individually or in combination. For the same reasons, therefore, that claim 1 is deemed allowable, claim 3 is likewise deemed allowable.

No substantive amendments to the claims are deemed necessary.

Reconsideration and withdrawal of the rejections and objections is requested and allowance of claims 1-8 is solicited.

Respectfully submitted,

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Per: _____

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